

CLAIMS

What is claimed is:

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1. A method for virtual end nodes in an RF network using a data packet including a first field, a second field and user data, the method for RF network virtual end nodes comprising the steps of:

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inserting in the first field a first virtual identity of an access point which communicates with a virtual end node;

inserting in the second field a second virtual identity of the access point;

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inserting in the user data an address of a physical end node corresponding to a virtual end node;

transmitting said data packet through said RF network to the access point;

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broadcasting the data packet by the access point;

determining by the physical end node whether the data packet is directed to the physical end node.

2. The method as claimed in claim 1, wherein there is further included a step of determining whether a contents of the first field corresponds to the first virtual identity.

3. The method as claimed in claim 2, wherein there is further included a step on determining whether a contents of the second field corresponds to the second virtual identity.

4. The method as claimed in claim 3, wherein there is further included by the access point a step of determining whether the data packet is for the virtual end node.
5. The method as claimed in claim 1, wherein:
 - the step of inserting in the first field is performed by a host system;
 - the step of inserting in the second field is performed by the host system; and
 - the step of inserting in the user data is performed by the host system
6. The method as claimed in claim 1, wherein:
 - the step of inserting in the first field is performed by an end node;
 - the step of inserting in the second field is performed by an end node; and
 - the step of inserting in the user data is performed by the end node.
7. The method as claimed in claim 1, wherein:
 - the step of inserting in the first field is performed by an access point;
 - the step of inserting in the second field is performed by an access point; and
 - the step of inserting in the user data is performed by the access point.

8. The method as claimed in claim 1, wherein:

the step of inserting in the first field is performed by the virtual end node;

the step of inserting in the second field is performed by the virtual end note; and

the step of inserting in the user data is performed by the virtual end node.

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9. The method as claimed in claim 1, wherein there is further included the steps of:

determining by an access point whether the first virtual identity is in the first field and

5 determining by an access point whether the second virtual identity is inserted in the second field.

10. A method for expanding a number of physical end nodes in an RF network, the method using a data packet including routing information and user data, the method for expanding the number of physical end nodes in an RF network comprising the steps of:

adding a physical end node with a virtual address;
indicating within the routing information that the
physical end node with the virtual address is to receive the
user data;

10 inserting an identity of the physical end node
with the virtual address within the user data;

 transmitting the routing information along with
the user data through the RF network; and

15 determining by the physical end node with the
virtual address whether the physical end node is to receive
the user data.

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11. The method as claimed in claim 10, wherein there is further included a step of obtaining by the physical end node the identity of the physical end node with the virtual address.

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12. The method as claimed in claim 10, wherein there is further included a step of determining by the RF network that the user data is to be transmitted to a physical end node with the virtual address.

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13. The method as claimed in claim 12, wherein there is further included a step of transmitting user data to the physical end node with the virtual address.

14. The method as claimed in claim 10, wherein the step of indicating includes the step of setting a first field of the routing information equal to a second field of the routing information.

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15. The method as claimed in claim 14, wherein there is further included a step of processing by the physical end node with the virtual address the user data with the virtual address.

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16. The method as claimed in claim 10, wherein the step of inserting is performed by a host system.

17. The method as claimed in claim 10, wherein the step of inserting is performed by an access point.

18. The method as claimed in claim 10, wherein the step of inserting is performed by an end node.

19. The method as claimed in claim 10, wherein the step of inserting is performed by the physical end node with the virtual address.

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20. A method for expanding a number of end nodes in a network, the method using a data packet including routing information and user data, the method for expanding the number of end nodes in a network comprising the steps of:

- 5 adding an end node with a virtual address;
- indicating within the routing information that the end node with a virtual address is to receive the user data;
- inserting an identity of the end node with a virtual address within the user data;
- 10 transmitting the routing information along with the user data through the network; and
- determining by each of the end nodes the identity of the end node with a virtual address to receive the user data.

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